

-29-

# CARBON CONTAINING SILICON OXIDE FILM HAVING HIGH ASHING TOLERANCE AND ADHESION

## Abstract of the Disclosure

5

An insulating film used for an interlayer insulating film of a semiconductor device and having a low dielectric constant. The insulating film comprises a carbon containing silicon oxide (SiOCH) film which has Si-CH<sub>2</sub> bond therein. The proportion of Si-CH<sub>2</sub> bond (1360cm<sup>-1</sup>) to Si-CH<sub>3</sub> bond (1270cm<sup>-1</sup>) in the insulating film is preferably in a range from 0.03 to 0.05 measured as a peak height ratio of FTIR spectrum. The insulating film according to the present invention has higher ashing tolerance and improved adhesion to SiO<sub>2</sub> film, when compared with the conventional SiOCH film which only has CH<sub>3</sub> group.

10

15

BEST AVAILABLE COPY